

WAFER ETCHING TECHNIQUES

ABSTRACT OF THE DISCLOSURE

A method (10) for etching a through via (116, 118) on a wafer (100) of semiconductor material (102), wherein the wafer (100) has a front side surface (110) and a backside surface (106), is described. A layer of photoresist material (104) is applied to the backside surface (106). The layer of photoresist (104) is then exposed to a light source through a mask having a pre-selected pattern, wherein the developed photoresist is removed to form at least one via (112, 114) in the remaining photoresist layer (104'). The remaining photoresist layer (104') is then baked in order to form a hardened, remaining photoresist layer (104''). The semiconductor material 102 adjacent to the at least one via (112, 114) is then gas plasma etched to form a through via (116, 118) between the backside surface (106) and the front side surface (110). The hardened, remaining photoresist layer (104'') is then removed and a layer of conductive material (120) is then applied to the surface of the through via (116, 118) to establish electrical connectivity between the backside surface (106) and the front side surface (110).